To further examine factors that contribute to the uptake of total PCBs and DDx into SMB tissue, a series of linear regressions was developed on smaller spatial scales using the 2018 PDI dataset. To develop these regressions, individual fish samples were co-located with 1-RM SWACs centered on the location where each fish was collected. Regressions were developed using the same approach adopted by EPA (2016a) when evaluating biota-sediment accumulation regressions and factors (BSAR/Fs). Three possible linear tissue-sediment models were calculated for both total PCBs and DDx:

- Untransformed tissue concentrations vs. sediment concentrations
- Untransformed tissue concentrations vs. log-transformed sediment concentrations
- Log-transformed tissue concentrations vs. log-transformed sediment

In addition, each of the linear tissue-sediment models was developed with four different permutations for data standardization, with and without lipid and/or organic carbon standardization. Lipid standardization for tissue and organic carbon standardization for sediment are often used to adjust for variations in chemical concentrations. The underlying assumption is that certain chemicals bioaccumulate in proportion to the lipid and total organic carbon content of tissue and sediment, respectively.

Such regressions permit the simultaneous examination of multiple data types, including concentrations of chemicals in sediment, total organic carbon in sediment, and amount of lipid in fish and fish tissue concentrations, in an attempt to identify important contributors explaining contaminant concentrations in SMB. These regressions indicate that there is little-to-no evidence to support a functional relationship between collocated sediment and fish tissue concentrations for either total PCBs (see Figure 5a) or DDx (see Figure 5b).[8] This indicates that other important factors, such as the refined estimates of SMB home range obtained during the 2018 PDI acoustic tracking study and the 2018 current baseline dissolved surface water concentrations of PCBs and DDx, may play an important role. In developing sediment CULs, EPA assumed that a sediment remedy alone would result in a meaningful reduction in risk due to fish consumption. The regression analyses performed on the 2018 PDI data demonstrate that this is unlikely to be the case.